

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A method for producing a porous film, comprising the steps of casting a polymer solution comprising a polymer onto a substrate to form a film; and subjecting the film to phase conversion to thereby form a porous film, wherein the polymer constituting the porous film has a surface tension S_a [mN/m], wherein the substrate has a surface tension S_b [mN/m], and wherein S_a and S_b satisfy the following condition: $S_a - S_b \geq -10$.

2. (Withdrawn) The method for producing a porous film according to claim 1, further comprising the steps of casting a solution mixture as the polymer solution onto the substrate to form a film, and subjecting the film to phase conversion by bringing the film to a solidifying liquid to thereby form a porous film, the solution mixture comprising 8 to 25 percent by weight of a polymer component for constituting the porous film, 10 to 50 percent by weight of a water-soluble polymer, 0 to 10 percent by weight of water and 30 to 82 percent by weight of a water-soluble polar solvent.

3. (Withdrawn) The method for producing a porous film according to one of claims 1 and 2, further comprising the steps of holding the cast film in an atmosphere at a relative humidity of 70% to 100% and a temperature of 15°C to 90°C for 0.2 to 15 minutes, and bringing the film to a solidifying liquid comprising a nonsolvent for the polymer component.

4. **(Currently Amended)** A porous film having a large number of continuous micropores, wherein the film has a thickness of 5 to 200 μm , has an average surface pore size A of 0.7 to 10 μm and an average surface porosity C of from 50% to 80% and has an average inside pore size B and an average inside porosity D,

wherein the ratio A/B of A to B is in the range of 0.3 to 3,

~~wherein the ratio C/D of C to D is in the range of 0.7 to 1.5,~~

wherein a maximum surface pore size is 15 μm or less; the ratio A^1/A^2 of an average pore size at one surface A^1 to an average pore size at the other surface A^2 is from 0.6 to 1.5, a maximum inside pore size is 5.1 μm or less; the average surface porosity C has an average porosity C^1 of from 50% to 80% at one surface and an average porosity C^2 of from 50% to 80% at the other surface; the average inside porosity D is from 45% to 80%; and the ratio C^1/D of C^1 to D is in the range of 0.7 to 1.5 and the ratio C^2/D of C^2 to D is in the range of 0.7 to 1.5,

wherein a polymer component forming the film comprises at least one selected from a group of amide-imide polymers, imide polymers, polyethersulfones, polysulfones, acrylic polymers or cellulose acetate,

wherein a Gurley permeability of the porous film is from 0.2 to 29 seconds per 100 cc, and

wherein the porous film is produced in a method comprising the steps of casting a polymer solution comprising a polymer onto a substrate to form a film; and subjecting the film to phase conversion to thereby form a porous film, wherein the polymer constituting the porous film has a surface tension S_a [mN/m], wherein the substrate has a surface tension S_b [mN/m], and wherein S_a and S_b satisfy the following condition: $S_a - S_b \geq -10$.

5. **(Currently Amended)** A porous film having a large number of continuous micropores,

wherein the film has a thickness of 5 to 200 μm , has an average pore size A^1 of 0.7 to 10 μm at one surface, an average pore size A^2 of 0.7 to 10 μm at the other surface, an average porosity C^1 of ~~48% or more~~ from 50% to 80% at one surface, and an average porosity C^2 of ~~48% or more~~ from 50% to 80% at the other surface,

wherein the ratio A^1/A^2 of A^1 to A^2 is in the range of ~~0.3 to 3~~ 0.6 to 1.5,

wherein the ratio C^1/C^2 of C^1 to C^2 is in the range of 0.7 to 1.5,

wherein a maximum surface pore size is 15 μm or less; a maximum inside pore size is 5.1 μm or less; the average inside porosity D is from 45% to 80%; the ratio C^1/D of C^1 to D is in the range of 0.7 to 1.5 and the ratio C^2/D of C^2 to D is in the range of 0.7 to 1.5,

wherein a polymer component forming the film comprises at least one selected from a group of amide-imide polymers, imide polymers, polyethersulfones, polysulfones, acrylic polymers or cellulose acetate,

wherein a Gurley permeability of the porous film is from 0.2 to 29 seconds per 100 cc, and

wherein the porous film is produced in a method comprising the steps of casting a polymer solution comprising a polymer onto a substrate to form a film; and subjecting the film to phase conversion to thereby form a porous film, wherein the polymer constituting the porous film has a surface tension S_a [mN/m], wherein the substrate has a surface tension S_b [mN/m], and wherein S_a and S_b satisfy the following condition: $S_a - S_b \geq -10$.

6. (Previously presented) The porous film according to claim 4, wherein the Gurley permeability of the porous film is from 1 to 25 seconds per 100 cc.

7. (Previously presented) The porous film according to claim 4, wherein the Gurley permeability of the porous film is from 1 to 18 seconds per 100 cc.

8. (Previously presented) The porous film according to claim 5, wherein the Gurley permeability of the porous film is from 1 to 25 seconds per 100 cc.

9. (Previously presented) The porous film according to claim 5, wherein the Gurley permeability of the porous film is from 1 to 18 seconds per 100 cc.

10. (New) A porous film having a large number of continuous micropores, wherein the film has a thickness of 5 to 200 μm , has an average surface pore size A of 0.7 to 10 μm and an average surface porosity C from 50% to 80% and has an average inside pore size B and an average inside porosity D ,

wherein the ratio A/B of A to B is in the range of 0.6 to 1.5,

wherein a maximum surface pore size is 15 μm or less; a ratio A^1/A^2 of an average pore size at one surface A^1 to an average pore size at the other surface A^2 is from 0.6 to 1.5; the average inside pore size B is from 0.5 to 16.7 μm ; the average surface porosity C has an average porosity C^1 of from 50% to 80% at one surface and an average porosity C^2 of from 50% to 80% at the other surface; the average inside porosity D is from 45% to 80%; and the ratio C^1/D of C^1 to D is in the range of 0.8 to 1.3 and the ratio C^2/D of C^2 to D is in the range of 0.8 to 1.3,

wherein a polymer component forming the film comprises at least one selected from a group of amide-imide polymers, imide polymers, polyethersulfones, polysulfones, acrylic polymers or cellulose acetate,

wherein a Gurley permeability of the porous film is from 0.2 to 29 seconds per 100 cc, and

wherein the porous film is produced in a method comprising the steps of casting a polymer solution comprising a polymer onto a substrate to form a film; and subjecting the film to phase conversion to thereby form a porous film, wherein the polymer constituting the porous film has a surface tension S_a [mN/m], wherein the substrate has a surface tension S_b [mN/m], and wherein S_a and S_b satisfy the following condition: $S_a - S_b \geq -10$.

11. (New) A porous film having a large number of continuous micropores, wherein the film has a thickness of 5 to 200 μm , has an average pore size A^1 of 0.7 to 10 μm at one surface, an average pore size A^2 of 0.7 to 10 μm at the other surface, an average porosity C^1 of from 50% to 80% at one surface, and an average porosity C^2 of from 50% to 80% at the other surface,

wherein the ratio A^1/A^2 of A^1 to A^2 is in the range of 0.6 to 1.5,

wherein the ratio C^1/C^2 of C^1 to C^2 is in the range of 0.7 to 1.5,

wherein a maximum surface pore size is 15 μm or less; the ratio A/B of an average surface pore size A to an average inside pore size B is in the range of 0.6 to 1.5; the average inside pore size B is from 0.5 to 16.7 μm ; the average inside porosity D is from 45% to 80%; and the ratio C^1/D of C^1 to D is in the range of 0.8 to 1.3 and the ratio C^2/D of C^2 to D is in the range of 0.8 to 1.3,

wherein a polymer component forming the film comprises at least one selected from a group of amide-imide polymers, imide polymers, polyethersulfones, polysulfones, acrylic polymers or cellulose acetate,

wherein a Gurley permeability of the porous film is from 0.2 to 29 seconds per 100 cc, and

wherein the porous film is produced in a method comprising the steps of casting a polymer solution comprising a polymer onto a substrate to form a film; and subjecting the film to phase conversion to thereby form a porous film, wherein the polymer constituting the porous film has a surface tension S_a [mN/m], wherein the substrate has a surface tension S_b [mN/m], and wherein S_a and S_b satisfy the following condition: $S_a - S_b \geq -10$.

12. (New) The porous film according to claim 4, wherein the average porosity C^1 is from 60% to 80% at said one surface and the average porosity C^2 is from 60% to 80% at said other surface.

13. (New) The porous film according to claim 4, wherein the average porosity C^1 is from 70% to 80% at said one surface and the average porosity C^2 is from 70% to 80% at said other surface.

14. (New) The porous film according to claim 5, wherein the average porosity C^1 is from 60% to 80% at said one surface and the average porosity C^2 is from 60% to 80% at said other surface.

15. (New) The porous film according to claim 5, wherein the average porosity C^1 is from 70% to 80% at said one surface and the average porosity C^2 is from 70% to 80% at said other surface.

16. (New) The porous film according to claim 10, wherein the average porosity C^1 is from 60% to 80% at said one surface and the average porosity C^2 is from 60% to 80% at said other surface.

17. (New) The porous film according to claim 10, wherein the average porosity C^1 is from 70% to 80% at said one surface and the average porosity C^2 is from 70% to 80% at said other surface.

18. (New) The porous film according to claim 11, wherein the average porosity C^1 is from 60% to 80% at said one surface and the average porosity C^2 is from 60% to 80% at said other surface.

19. (New) The porous film according to claim 11, wherein the average porosity C^1 is from 70% to 80% at said one surface and the average porosity C^2 is from 70% to 80% at said other surface.